L 59551-65

ACCESSION NR: AR5012846

isotope gallium-72. The sodium aluminate solutions used for the experiments had the composition: Al_2O_3 30-50 grams/liter, Na_2O_{caust} 80-140 grams/liter at a temperature of approximately 85-90C, and the duration of the experiments was 8-14 hours. Gallium can be completely separated from the solution, but its separation takes place at the end of the process, when the greater part of the Al_2O_3 has already been separated out. Analogous results were obtained with the aid of activation analysis. The process of carbonization of pure solutions of sodium gallate at temperatures of 20 and 90C was studied. Gallium begins to precipitate out only in the absence of sodium hydroxide in the solution and can be separated practically completely from the solution. The main product of the carbonization of sodium gallate solutions at 90C is gallium oxide monohydrate, while at 20C, gallium oxide monohydrate precipitates out at first, and then a mixture of this with sodium gallocarbonate. The conditions of formation and some of the physical and chemical properties of $Na_2O.Ga_2O_3.2CO_2.nH_2O$ were studied. Orig. art. has: 7 figures, 3 tables. Author's abstract.

SUB CODE: IC, GC ENCL: 00

Card 2/2

ACCESSION NR: AP4029191 S/0078/64/009/004/0925/0930

AUTHOR: Parmyakova, T. V.; Lileyev, I. S.

TITLE: Production of lanthanum silicates

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 4, 1964, 925-930

TOPIC TAGS: lanthanum silicate, production, exchange reaction, lanthanum pyrosilicate, lanthanum oxyorthosilicate, lanthanum orthosilicate, La sub 2 O(SiO sub 4), x ray ionization curve, solubility, purification

ABSTRACT: The possibility of preparing lanthanum silicates at lower temperatures by exchange reactions between lanthanum salts and sodium silicates was investigated. Some chemical properties of the lanthanum silicates were examined. $La_2(SO_4)_3$ and sodium silicate were reacted in ratios of 1:3, 1:1, and 1:2. Lanthanum pyrosilicate was formed by reaction with 3 moles of sodium meta- or disilicate:

$$La_2(SO_4)_3 + 3Na_2SiO_3 \rightarrow 3Na_2SO_4 + [La_2(SiO_3)_3] \rightarrow 3Na_2SO_4 + La_2Si_2O_7 + SiO_2$$

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ACCESSION NR: AP4029191

$$La_2(SO_4)_3 + 3Na_2Si_2O_5 \rightarrow 3Na_2SO_4 + [La_2(Si_2O_5)_3] \rightarrow 3Na_2SO_4 + \tfrac{1}{3}La_2Si_2O_7 + \tfrac{2}{3}4SiO_2$$

The product of the reactions of the 1:1 and 1:2 component ratios was lanthanum oxyorthosilicate $La_2O(SiO_4)$ and possibly lanthanum orthosilicate. The temperature for obtaining lanthanum silicates by exchange reaction is far lower than by roasting the oxides (900-1000 C instead of 1600 C) (fig. 1). X-ray ionization curves of the reaction products obtained by reaction of the different component ratios at 600-1600 C are given. The solubility of the lanthanum silicates in water, caustic and acid solutions was determined. They are practically insoluble in water and caustic solutions (only 5 wt.% of the pyrosilicate dissolves in 12.5 N NaOH at 95 C in 12 hours). $La_2Si_2O_7$ is dissolved by acid, 21.5% in 0.1 N HCl and 99% in 1 N HCl. Pure lanthanum silicate can be produced by roasting lanthanum sulfate with 3 moles Na_2SiO_3 or $Na_2Si_2O_5$, treating the roast with caustic and water washing. Orig. art. has: 4 tables and 4 figures.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova Akademii nauk SSSR (Institute of Silicate Chemistry, Academy of Sciences, SSSR)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929920010-9"

ACCESSION NR: AP4029191

SUBMITTED: 08Feb63 DATE ACQ: 29Apr64 ENCL: 01

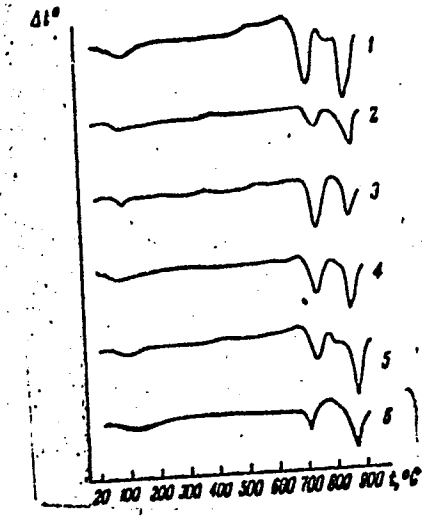
SUB CODE: GC,IC NO REF SOV: 005 OTHER: 002

Card 3/4

ACCESSION NR: AP4029191

ENCLOSURE: 01

Fig. 1. Differential heating curves for the investigated mixtures:
1 - $La_2(SO_4)_3$ + $3Na_2Si_2O_5$; 2 - $La_2(SO_4)_3$ + $3Na_2SiO_3$; 3 - $La_2(SO_4)_3$ + $2Na_2Si_2O_5$; 4 - $La_2(SO_4)_3$ + $2Na_2SiO_3$; 5 - $La_2(SO_4)_3$ + $Na_2Si_2O_5$; 6 - $La_2(SO_4)_3$ + Na_2SiO_3



Card 4/4

L 49786-65 EWT(m)/EWP(e)/EWP(t)/EWP(b)/EWP(l) IJP(e) JD/JG
ACCESSION NR: AP5009372 UR/0363/65/001/002/0222/0226

16
14
B

AUTHOR: Isupova, Ye. N.; Lileyev, I. S.

TITLE: Synthesis and properties of lanthanum borates

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 2, 1965, 222-226

TOPIC TAGS: lanthanum borate, inorganic synthesis

ABSTRACT: Conditions for the synthesis of lanthanum borates and the chemical stability of these compounds were studied. Lanthanum borates were synthesized by exchange reaction between lanthanum sulfate and sodium borates and also directly from La_2O_3 and B_2O_3. The synthesis of lanthanum compounds by exchange reaction facilitates lowering of the temperature and less expensive and more abundant materials than the oxides may be used. The reactions of La_2O_3 with B_2O_3 in the 1100-1300°C range produced two compounds: lanthanum metaborate, $La(BO_2)_3$ and lanthanum orthoborate, $LaBO_3$. The exchange reactions between lanthanum sulfate and sodium borates take place in the 900-1000°C interval. It was shown that both $La(BO_2)_3$ and $LaBO_3$ may be synthesized by this method. The article describes the experimental condi-

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L 49786-65

ACCESSION NR: AP5009372

2

tions which are necessary for this synthesis. It was established that $LaBO_3$ is not decomposed by cold or boiling water nor by cold or boiling 6 and 12 N NaOH, while $La(BO_2)_3$ is completely destroyed by alkali. "The major part of the chemical analysis was done by A. V. Bystrova." Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova Akademii nauk SSSR (Institute of Chemistry of Silicates, Academy of Sciences SSSR)

SUBMITTED: 19Oct64 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 004 OTHER: 004

BJB

Card 2/2

L 49285-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD/JG
ACCESSION NR: AP5009373 UR/0363/65/001/002/0227/0231

16
14
B

AUTHOR: Kornilova, E. Ye.; Prikhid'ko, N. Ye.; Lileyev, I. S.

TITLE: Lanthanum germanates

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 2, 1965, 227-231

TOPIC TAGS: lanthanum germanate, inorganic synthesis, germanium compound, lanthanum compound

ABSTRACT: The experiments were conducted by sintering germanium and lanthanum oxides. The progress of the reaction was monitored by differential thermal analysis, x-ray diffraction, infrared absorption spectroscopy of the reaction products, selective dissolution of the unreacted germanium dioxide in 0.1 *N* NaOH, refractive index and quantitative chemical analysis. The experiments showed that the meta-, pyro- and oxyorthogermanates of lanthanum may be synthesized by sintering the oxides. It was found that at 1300°C lanthanum metagermanate melts with decomposition into pyrogermanate and germanium dioxide. The measured physical constants of these compounds are summarized below:

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L 49785-65

ACCESSION NR: AP5009373

2

Compound	mp, °C	density at 20°C, g/cm²	Refractive Index Ng	Refractive Index Ne
Metagermanate $La_2[GeO_3]_3$	1300 ± 25	5.94	1.995	1.980
Pyrogermanate $La_2[Ge_2O_2]$	2050 ± 25	5.65	1.900	1.880
Oxyorthogermanate $La_2[GeO_4]O$	1972 ± 25	5.73	1.935	1.915

It was found that lanthanum germanates are insoluble in water and in 0.1 *N* NaOH. Acids and concentrated basic solutions destroy them. "The infrared absorption spectra of the synthesized products were obtained and interpreted by A. N. Lazarev and coworkers." Orig. art. has: 3 figures and 5 tables.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of the Chemistry of Silicates, Academy of Sciences SSSR)

SUBMITTED: 05Nov63 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 002 OTHER: 003

Card 2/2

L 34501-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 IJP(c) JD/JG
ACCESSION NR: AP5002798 S/0078/65/010/001/0092/0097

AUTHOR: Guseva, I. V.; Lilevev, I. S.

22
21
B

TITLE: Preparation of lithium alumosilicates from aqueous solutions

27

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 1, 1965, 92-97

TOPIC TAGS: lithium alumosilicate, synthesis, ion exchange, lithium aluminum silicate

ABSTRACT: Hydrated lithium alumosilicates were obtained by reacting solutions of lithium silicate and lithium aluminate (containing excess LiOH) at 20 and 97 C. At room temperature the composition of the product was almost independent of the LiOH concentration and of the Al_2O_3:SiO_2 ratio in the initial solutions. The product obtained at 20C from solutions containing 10-50 g/1 Li_2O was amorphous $Li_2O \cdot Al_2O_3 \cdot 2SiO_2 \cdot nH_2O$ (I). Crystalline I was obtained at 97 C from solutions with a 1:1 Al_2O_3:SiO_2 ratio, containing less than 30 g/1 Li_2O. The precipitates formed under similar conditions using 1:2 and 1:4 reactant ratios comprised mixtures of $Li_2O \cdot SiO_2 \cdot mH_2O$ and I. When the Li_2O content was over 30 g/1 the pre-

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L 34501-65
ACCESSION NR: AP5002798

cipitates had compositions approximating $3Li_2O \cdot Al_2O_3 \cdot 3SiO_2 \cdot nH_2O$; their structure is to be studied further. Even with a 1:4 reactant ratio the precipitates did not have the $Li_2O:Al_2O_3:SiO_2$ ratio of spodumene. β-eucryptite was formed on heating I to 1000C. I was very slightly soluble in water; its solubility was increased by the addition of LiOH or NaOH solutions. When I was treated with NaOH solutions, the Li in the precipitate was completely replaced by Na, indicating the presence of ion exchange properties in I. Orig. art. has: 4 tables and 2 figures.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchinkova Akademii nauk SSSR (Institute of Silicate Chemistry, Academy of Sciences SSSR)

SUBMITTED: 12Nov63 ENCL: 00 SUB CODE: GC, IC

NR REF SOV: 002 OTHER: 006

Card 2/2

L 5299-66 EWT(m)/T

ACC NR: AP5024963 SOURCE CODE: UR/0286/65/000/016/0024/0024

AUTHORS: Melkonyan, G. S.; Lileyev, I. S.; Darbinyan, M. V.; Arakelyan, O. I.; Dovlatyan, A. N.; Oganesyan, M. L.; Tokmadzhyan, G. S.

26
23

ORG: none

TITLE: A method for obtaining zeolites. Class 12, No. 173720 (announced by Scientific Research Institute of Stone and Silicates (Nauchno-issledovatel'skiy institut kamnya i silikatov))

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 24

TOPIC TAGS: zeolite, perlite, volcanic glass

ABSTRACT: This Author Certificate presents a method for obtaining zeolites from natural minerals by treating the latter with a base at a temperature of 50-200C. The resulting zeolite is then strained and washed. To increase the amount of available raw materials and to lower the cost of zeolites, perlite rock is used as the original raw material.

SUB CODE: MT, GC / SUBM DATE: 12May64/ ORIG REF: 000/ OTH REF: 000

Card 1/1 UDC: 661.183.6

0901 0537

SHIROKOVA, P.V.; LILEYEV, I.S.

Synthesis of sodium gallosilicates at sintering temperatures. Zhur. neorg. khim. 10 no.6:1402-1408 Je '65.
(MIRA 18:6)

1. Institut khimii silikatov imeni Grebenshchikova AN SSSR.

ISUPOVA, Ye.N.; LILEYEV, I.S.

Synthesis and some properties of lanthanum borates. Izv. AN SSSR. Neorg. mat. 1 no.2:222-226 F '65. (MIRA 18:7)

1. Institut khimii silikatov imeni Grebenshchikova AN SSSR.

KORNILOVA, E.Ye.; PRIKHID'KO, N.Ye.; LILEYEV, I.S.

Lanthanum germanates. Izv. AN SSSR. Neorg. mat. 1 no.2:227-231 F '65. (MIRA 18:7)

1. Institut khimii silikatov AN SSSR.

GUSEVA, L.V.; LIBEYEV, I.S.

Preparation of lithium alumosilicates from aqueous solutions. Zhur. neorg. khim. 10 no.1:92-97 Ja '65. (MIRA 18:12)

1. Institut khimii silikatov imeni Grebenshchikova AN SSSR. Submitted Nov. 12, 1963.

L 61081-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD/JG
ACCESSION NR: AP5018251 UR/0078/65/010/007/1695/1700
546.654'284

18
B

AUTHOR: Permyakova, T. V.; Lileyev, I. S.

TITLE: Synthesis of lanthanum silicates from aqueous solutions

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 7, 1965, 1695-1700

TOPIC TAGS: lanthanum silicate, lanthanum sulfate, sodium silicate, rare earth, lanthanum hydroxide

ABSTRACT: The reactions between a lanthanum sulfate solution and solutions of sodium metasilicate, disilicate, and orthosilicate were studied by the methods of solubility, potentiometric titration, measurement of the pH of equilibrium solutions, and measurement of the composition and volume of the precipitates. It was found that in all of the systems under consideration, an exchange reaction occurs with the formation of lanthanum silicates whose composition includes silicate anions corresponding to the sodium silicates introduced. In all three systems, up to an $Si^{4+}:La^{3+}$ ratio just below the value corresponding to the compound, lanthanum hydroxide coprecipitates with lanthanum silicate. The

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L 61081-65

ACCESSION NR: AP5018251

largest amount of lanthanum hydroxide separates when sodium orthosilicate reacts with the most alkaline compound; the lowest amount separates in the reaction with sodium disilicate. The thermal stability of the lanthanum silicates obtained decreases in the order orthosilicate > metasilicate > disilicate. Lanthanum disilicate is obtained only as an amorphous gel, and decomposes immediately on crystallizing; lanthanum metasilicate exists as a crystalline compound only over a narrow temperature range (850-950C); lanthanum orthosilicate is a stable compound. Orig. art. has: 5 figures, 4 tables, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 30Nov63 ENCL: 00 SUB CODE: IC

NO REF SOV: 006 OTHER: 000

Card 2/2

LILEYEV, M.V.

8G-206 551.521.1

Lileev, M. V., Kharakteristika radiatsionnogo balansa i ego sostavnykh chastei v raione Sverdlovska. [Characteristics of the radiation balance and its components in the Sverdlovsk Region.] *Leningrad. Glavnaia Geofizicheskaia Observatoriia. Trudy*, 50 (112) 88-110, 1955. 12 tables. 2 refs.

DAWS – This is a comprehensive study of the characteristics of [illegible] the annual variation of [illegible] Systematic balance observations [illegible] observations at the Sverdlovsk [illegible] description of the place of observation and [illegible] method of observation and working up [illegible] of the radiation, total radiation, albedo [illegible]

KARTASHEV, V.P.; LILEYEV, M.V.; SKUL'SKIY, V.Yu.; SHUKSTOVA, Z.N.

Observation of the total solar eclipse of June 30, 1954, by the Sverdlovsk eclipse expedition. Biul.VAGO no.23:3-17 '58. (MIRA 11:11)

1. Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo i Sverdlovskoye otdeleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva.

(Eclipses, Solar--1954)

S/169/62/000/002/036/072
D228/D301

AUTHOR: Lilevev, M. V.

TITLE: Main features of the radiation balance near Sverdlovsk

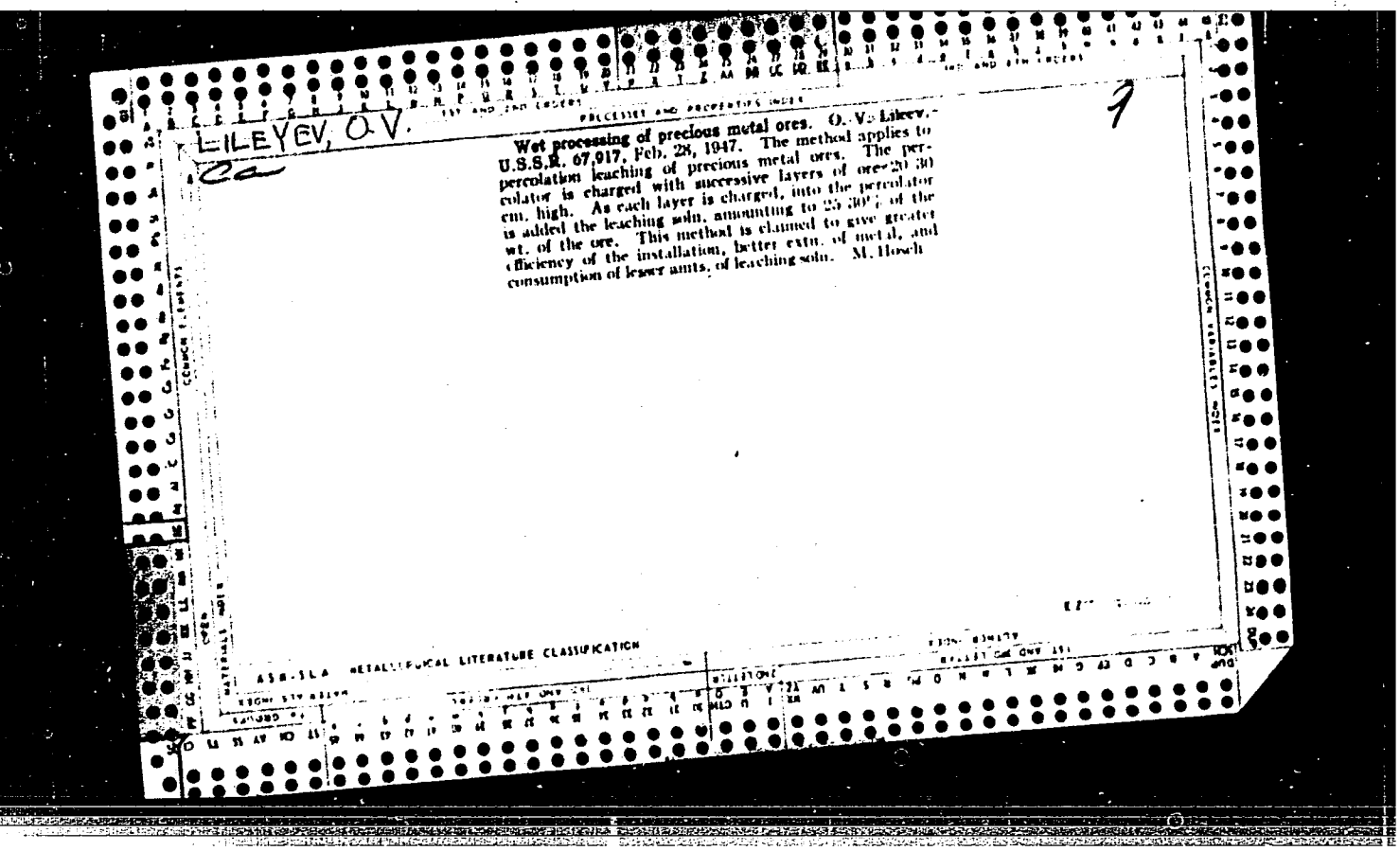
PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1962, 21, abstract 2B167 (V sb. Vopr. klimata Urala, Sverdolvsk, 1958, 5-26)

TEXT: The characteristic of the radiation balance of the Central Urals is given according to the multiyear observations of two actinometric stations (Sverdlovsk and Vysokaya Dubrava). Data are cited about the diurnal and annual variation of direct and summary radiation in the case of cloudless skies, the atmosphere's transparency, scattered and summary radiation under different cloud conditions, and the albedo and radiation balance of the underlying surface. Attention is paid to the considerable share of scattered radiation in the total heat influx. It is noted that the summary radiation is asymmetric in its diurnal and annual variation; This is, on the whole, related to the peculiarities of the yearly cloud variation. The average annual sum of direct solar radiation com-

Ca Card 1/2

LILEYEV, M.V.

Atmospheric transparency in the Sverdlovsk region. Trudy GGO no.174:124-134 '65. (MIRA 19:1)



LILEYEV, O.V.

Ca

Wet processing of precious metal ores. O. V. Lileev. U.S.S.R. 67,917, Feb. 28, 1947. The method applies to percolation leaching of precious metal ores. The percolator is charged with successive layers of ore 20-30 cm. high. As each layer is charged, into the percolator is added the leaching soln. amounting to 25-30% of the wt. of the ore. This method is claimed to give greater efficiency of the installation, better extn. of metal, and consumption of lesser amts. of leaching soln. M. Hosch

1

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOKOZO, V.I.; LILEYEV, O.V., red.; ISHUTINOVA, M.D., red.

[Rotary hearth furnaces, their operation and adjustment] Vrashchaiushchiesia pechi i ikh tekhnicheskoe obsluzhivanie. Moskva, 1963. 42 p. (MIRA 17:7)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut informatsii i tekhniko-ekonomicheskikh issledovaniy tsvetnoy metallurgii.

AUTHORS: Lileyev, S.K., Ol'shanskiy, S.F. SOV/113-58-4-1/21

TITLE: Experience From Interdepartmental Scheduling of Basic Production (Opyt mezhtsekhovogo kalendarnogo planirovaniya osnovnogo proizvodstva)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 4, pp 1 - 4 (USSR)

ABSTRACT: There are two basically diverse methods of detailed production planning in the enterprises of the automobile industry: the parallel method as used by the Gor'kovskiy avtozavod (Gor'kiy Automobile Plant) and the chain method as applied in the Moscow Automobile Plant imeni Likhachev. The latter produces tens of thousands of automobiles of medium load capacity a year, which are put out by the method of continuous mass production. Certain departments of the plant employ individual small serial, serial and large serial production methods. This includes repair and assembly shops, pattern and instrument sections, foundry, forge-pressing, accessory, metal-part and thermal-processing departments. A mixture of these two production methods proved to be unsatisfactory, while experimental interdepartmental scheduling of the basic production guaranteed the rhythmic flow of the processes concerned in all departments. Three examples

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are given and the development of standard graphs comprising serial processes with respect to time, action and material explained. Establishing and following-up of the schedules is effected and handled by production-dispatching bureaus and departments. There are 6 tables.

ASSOCIATION: Moskovskiy avtozavod imeni Likhacheva (The Moscow Automobile Plant imeni Likhachev)

1. Automobile industry--USSR 2. Passenger vehicles--Production
3. Industrial production--Scheduling

LILEYEV, S.K.

12(2) SOV/113-59-4-3/19

AUTHORS: Lileyev, S.K., Ol'shanskiy, S.F.

TITLE: Experience in Organizing the Manufacture of a New Product Without Interrupting Production

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 4, pp 3-6 (USSR)

ABSTRACT: The change to the manufacture of the new three-axle truck ZIL-157 was performed by the Moskovskiy avtozavod imeni Likhacheva (Moscow Automobile Plant imeni Likhachev) during the third quarter of 1958 without interrupting the production process. This production change was a subsequent step in the production conversion system developed at the plant. This system was used for the first time in 1948 when the manufacture of the ZIL-150 truck was begun. Preparing the manufacture of a new product is divided into two phases. One consists in the design work, building of test models for checking design and calculated data. The second, a more important phase, is the development of the technology of the new manufacturing process. At automobile plants, the conversion of assembly lines for the manufacture of a new model is connected with

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Experience in Organizing the Manufacture of a New Product Without Interrupting Production

great difficulties. The author mentions the experience of the American automobile industry. For example, Ford's production losses in 1947 were 298% of monthly production while ZIL lost 57% during the 1948 conversion and 28% in 1958. The author describes the various phases of the 1958 production conversion at ZIL. There are 1 graph and 2 tables.

ASSOCIATION: Moskovskiy avtozavod imeni Likhacheva (Moscow Automobile Plant imeni Likhachev)

SLUTSKIY, M.I., inzh.; LILEYEV, S.K., inzh.

Mechanization and automation of production management in the assembly shops of the Likhachev Automobile Plant. Vest.mash. 42 no.4:82-85 Ap '62. (MIRA 15:4)

1. Nauchno-issledovatel'skiy tekhnologicheskiy institut avtomobil'noy promyshlennosti (for Slutskiy). 2. Moskovskiy avtomobil'nyy zavod im. Likhacheva (for Lileyev).
(Moscow--Automobile industry) (Automation)

MYSLYAYEVA, A.V., kand. med. nauk; ZAKHVATKINA, I.A.; SVERDLOV, S.L.; ANDREYEV, I.D., dotsent; GENADINNIK, I.S., kand. med. nauk; KUZNETSOV, A.A., NIKOLAYEVA, G.V., prof.; SILAKOVA, V.V., dotsent; SHAMLYAN, N.P.; FRIDMAN, M.N., dotsent; GORBYLEV, M.N.; SIGAL, Ye.S., zasluzhennyy vrach RSFSR; KHOLOPOVA, L.N.; GABOV, A.A.; LILEYEV, V.A.; MAKAREVICH, Ya.A., kand. med. nauk; SHELEPIN, A.S.; SHMELEV, M.M.; PEVZNER, G.I.; SILAYEV, Yu.S.

Abstracts. Sovet. med. 27 no.6:140-145 Je'63 (MIRA 17:2)

1. Iz kafedry propedevtiki vnutrennikh bolezney i patologicheskoy anatomii Kazakhskogo meditsinskogo instituta (for Myslyayeva, Zakhvatkina). 2. Iz Novozybkovskoy mezhrayonnoy bol'nitsy Bryanskoy oblasti (for. Sverdlov). 3. Iz kafedry normal'noy anatomii II Moskovskogo meditsinskogo instituta (for Andreyev). 4. Iz kafedry obshchey khirurgii i kafedry rentgenologii Chelyabinskogo meditsinskogo instituta (for Genadinnik, Kuznetsov). 5. Iz kafedry propedevticheskoy terapii Ivanovskogo meditsinskogo instituta (for Nikolayeva, Silakova). 6. Iz Lovozerskoy rayonnoy bol'nitsy Murmanskoy oblasti (for Shamlyan). 7. Iz kafedry gospital'noy terapii Bashkirskogo meditsinskogo instituta i terapevticheskogo otdeleniya 8-y bol'nitsy (for

(Continued on next card)

LILEYEVA, A. A.

Petrographic and mineralogic characteristics of Jurassic sediments in the Kursk Magnetic Anomaly. Trudy VSLGEI 91:143-151 '63.
(MIRA 17:7)

LILEYEVA, A. K.

"Study of Mass Conveyance During Extraction in Pulverizer Towers." Cand Tech Sci, Leningrad Technological Inst imeni Lensovet, Min Higher Education USSR, Leningrad, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Instiutions (12)
SO: Sum. No. 556, 24 Jun 55

KUZNETSOV, F.A.; LILEYEVA, A.K.; SMIRNOV, N.I.

Coefficients of fatty acid distribution. Trudy LTI no.60:206-209 '60. (MIRA 14:5)

(Acids, Fatty) (Extraction (Chemistry))

KUZNETSOV, F.A.; LILEYEVA, A.K.; SMIRNOV, N.I.

Equilibrium of extraction processes in some systems. Zhur. prikl.khim. 34 no.8:1829-1834 Ag '61. (MIRA 14:8)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.
(Systems (Chemistry))
(Extraction (Chemistry))

LILEYEVA, A.K.; SMIRNOV, N.I.

Critical equation of the extraction process. Zhur. prikl. khim. 34 no.5:1158-1162 My '61. (MIRA 16:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Extraction(Chemistry))

LILEYEVA, Z.V.

AID P - 2889

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 6/20

Authors : Lileyeva, Z. V., Dots.; Panfilova, K. S., Sanitary Inspector; Khlopina, M. S., Chemist

Title : Chronic mercury intoxication of medical personnel in dentists' offices

Periodical : Gig. i san., 9, 24-27, S 1955

Abstract : Describes investigations made in dentists' offices in Yaroslavl', and presents case histories of dentists and their assistants poisoned by mercury vapors. Gives recommendations. 2 tables. 5 refs.

Institution : Therapeutic Clinic of the Faculty, Yaroslavl' Medical Institute and Yaroslavl' Municipal Medical and Epidemiological Station

Submitted : Je 26, 1954

LILEYEVA, Z.V., dotsent

Rectal administration of narcotic mixture in sleep therapy for hypertension. Terap.arkh.27 no.5:64-67 '55 (MLRA 8:12)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav.prof. V.A.Krakov) Yaroslavskogo meditsinskogo instituta.
(SLEEP, therapeutic use
hypertension, rectal admin. of narcotic mixture)
(HYPERTENSION, therapy,
sleep ther.,rectal admin. of narcotic mixture)
(NARCOTICS, administration,
rectal, in sleep ther. of hypertension)

BABANOV, G.P., kand.med.nauk; KLYUCHIKOV, V.N., dotsent; KARAYEVA, N.I.; LILEYEVA, Z.V., dotsent

Clinical aspects of chronic intoxication with nitrile acrylic acid. Vrach.delo no.8:833-835 Ag '59. (MIRA 12:12)

1. Kafedra obshchey giginy, fakul'tativnoy terapii, nevropatologii, oto-rino-laringologii Yaroslavskogo meditsinskogo instituta.
(ACRYLONITRILE--TOXICOLOGY)

8(6) SOV/112-59-5-8845

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 61 (USSR)

AUTHOR: Lileykin, V. B.

TITLE: Conditions and Organization of the Operating Service in the Leningrad High-Voltage System

PERIODICAL: Sb. tekhn. inform. po sel'sk. elektrifik., 1958, Nr 8-9, pp 54-58

ABSTRACT: The leading role of mechanized repair stations in line work and the need for a much better quality of repair material are noted.

Card 1/1

LILEYKO, P.G., (Kishinev).

Apparatus for experiments with three-phase current. Fiz. v shkole 16 no.6:55-57 N-D '56. (MLRA 9:12)

(Electric currents, Alternating--Study and teaching)

LILIC, B.

Yugoslavia (L30)

summaries of transactions already published in specialized Serbian language publications of the Academy). Vol. 2, no. 1, 1951.

East European Accessions List, Library of Congress, Vol. 1, no. 13, November 1952. UNCLASSIFIED.

"Card 2 of 2"

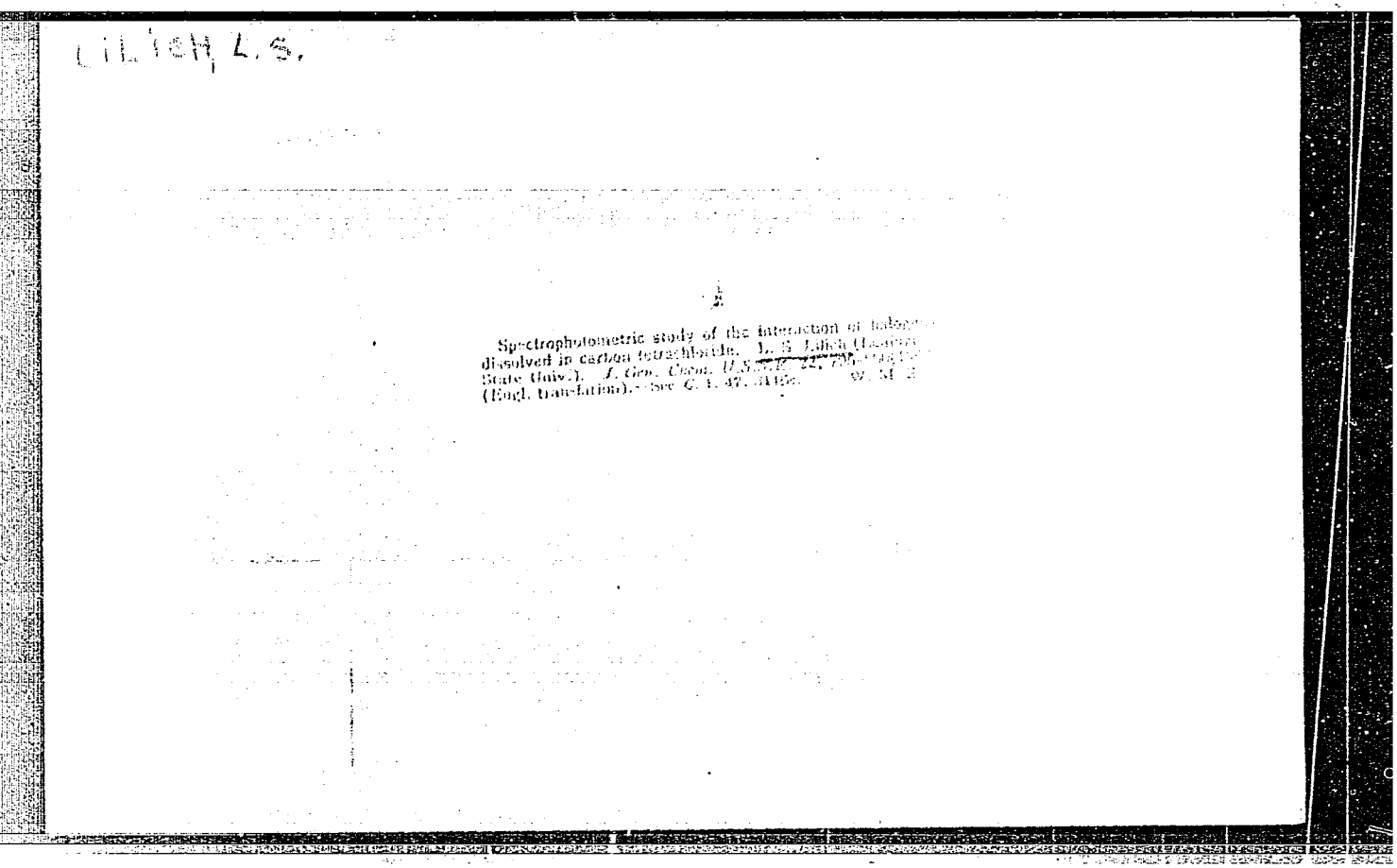
LILIC, S.

Conditions for development of the highvoltage electric industry in Serbia; a report. p. 212. Vol. 8, no. 4, July/ Aug. 1955. Elektroprivreda.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 2, Feb. 1956

RAMM, Spiridon Naumovich, dots.; LILICH, Galina Alekseyevna, kand. filol. nauk; MOGILEVSKIY, Lev Davydovich, inzh.; SMUL'SKAYA, T.K., red.; PLAKSHE, L.Yu., tekhn. red.

[Czech-Russian leather and shoe dictionary]Cheshsko-russkii kochevenno-obuvnoi slovar'. Moskva, Glav. red. inostr. nauchno-tekhn. slovarei Fizmatgiza, 1962. 135 p. (MIRA 16:3)
(Czech language--Dictionaries--Russian)
(Leather--Dictionaries) (Boots and shoes--Dictionaries)



LILICH, L.S.

Spectrophotometric study of the interaction of iodine dissolved in carbon tetrachloride. L. S. Lilich (Leningrad State Univ.). *J. Gen. Chem. U.S.S.R.* 22, 731 (1952) (Engl. translation).—See C. A. 47, 3145e.

USSR/Chemistry - Physical Chemistry Aug 52
Iodine

"The States of Iodine in Several Organic Solvents," S. A. Shchukarev, L. S. Lilich and A. B. Sheynin

"DAN SSSR" Vol 85, No 6, pp 1333-1335

It is believed that a coordination bond arises between the I and the volvent mol when I is dissolved in an org solvent. In the present work, I is dissolved in varying concns in solvents (CCl_4, C_4H_9Cl, C_2H_5Br, C_4H_9Br, and C_2H_5I) and the vapor pressures of I noted. It is found

to decrease in the following order: $CCl_4 > RCl > RBr > RI$. The vapor pressure of I_2 over CCl_4 follows Henry's Law of satn. The degree of interaction of I with the solvent increases with the degree of the electron-donating properties of the solvent. The hypothesis of the formation of a coordination-covalent bond between the I and the solvent is confirmed. Presented by Acad A. N. Terenin 18 Jun 52

LILICH L. S.

LILICH, L. S.

CH

The nature of solutions of iodine. I. Spectrophotometric study of reaction of iodine with organic molecules in solutions. S. A. Shchukarev and L. S. Lilich. *Uchenye Zapiski Leningrad. Gos. ordena Trud. Krasnogo Znameni Univ. im. A. A. Zhdanova* No. 155; *Ser. Khim. Nauk* No. 11, 3–18(1952).—Spectrophotometric studies showed that I_2 and many org. solvents form 1:1 molar complexes whose stability and degree of dissocn. depend on the nature of the org. component. The following solvents were used: pyridine, quinoline, Et_2S, $(PhCH_2)_2S$, Pr_2S, EtSAm, Ph_2S, $(PrS)_2$, iso-Am_2Se, dioxane, and BuOH. Erratic results were obtained with O-contg. solvents, apparently owing to relatively low binding energy in complexes with such solvents. The coeff. of distribution of I_2 in CCl_4 vapor is const. as proved by spectrophotometric detns., which give a straight-line plot of concn. in the vapor vs. that in soln. up to 14 mole/l. concn. G. M. K.

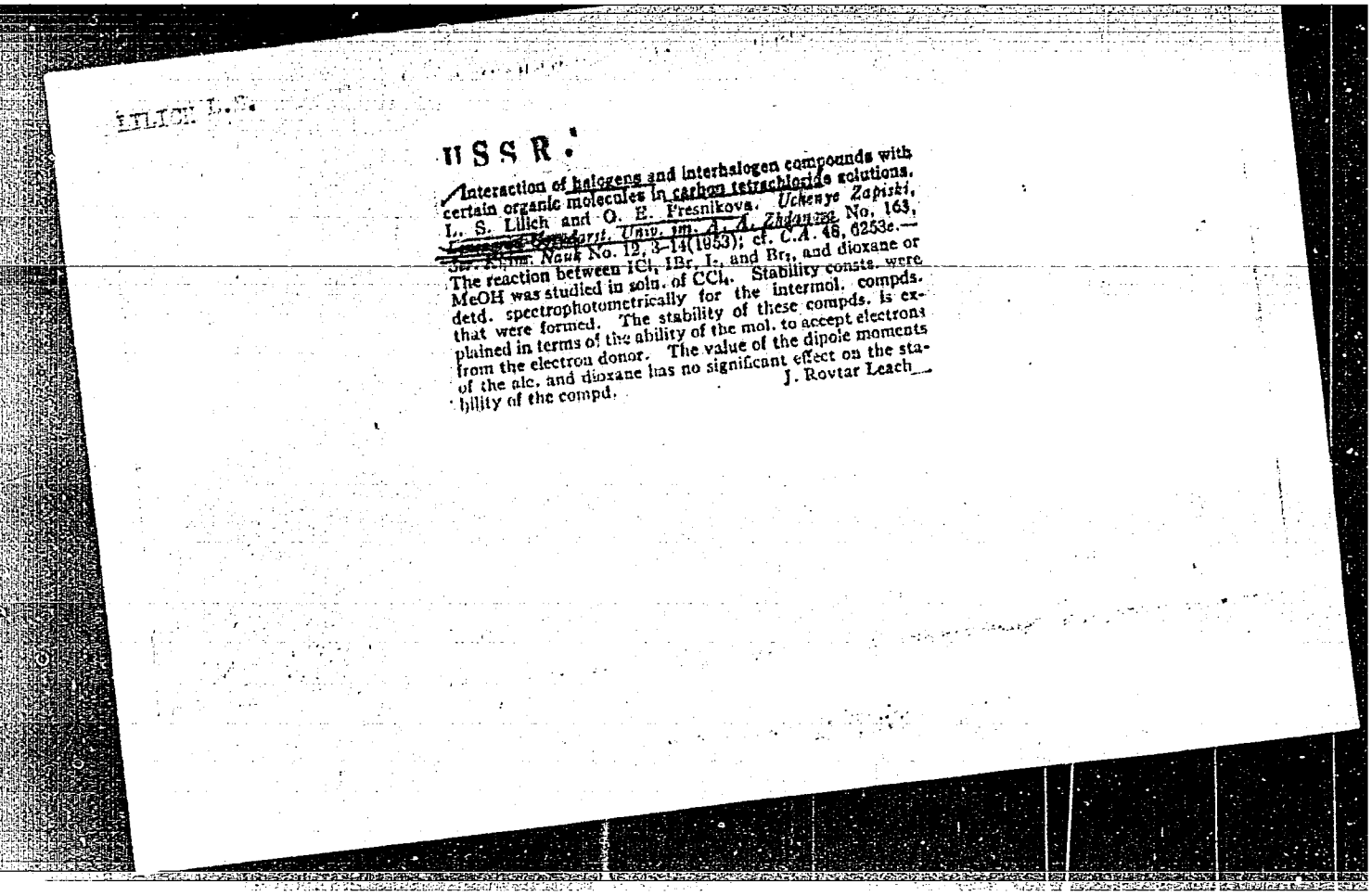
-IKICH, L.S.

(3)

The heats of reaction of hydrates of oxides of zinc, copper (II), and barium with hydrochloric and nitric acids and hydrogen halide acids. S. A. Shchukarev, L. S. Lilich, and V. A. Latysheva. *Doklady Akad. Nauk S.S.S.R.* 91, 273-6(1953).—It is known that ions of Zn and Cu(II) in water soln. can form unstable complex ions with halogen ions. Therefore it was reasonable to expect that for Zn and Cu the effects of neutralization by acids differing by nature of anions would not be equal. Heat effects of reaction of $Zn(OH)_2$, $Cu(OH)_2$, and $Ba(OH)_2$ with 2*N* HCl, HBr, HI, $HClO_4$, and HNO_3 were detd. by direct method with acid always in large excess. HCl and HNO_3 were used for comparison as anions which develop min. tendency toward complex formation. Heat effects for $Ba(OH)_2$ were approx. equal for all acids used, corresponding to Thomsen's results. ZnO in 2*N* HCl coincided with Peppler's results. Heat effects for $Zn(OH)_2$, ZnO, and $Cu(OH)_2$ in the indicated acids are not equal and increase with transition from Cl^- to I^-, ClO_4^-, and NO_3^-, which affirms the reaction of Zn^{++} and Cu^{++} with anions in soln. The differences between ZnO and $Zn(OH)_2$ in all acids are almost equal and correspond to the literature consts. for hydration of ZnO with formation of $Zn(OH)_2$. Heat effects may attest to reactions between components of soln. but give no basis for detn. of thermal stability and compn. of complex ions formed.

V. N. Bednarski

10-13-54 ME



LILICH, L. S.

USSR

Interaction of halogens and interhalogen compounds with certain organic molecules in carbon tetrachloride solutions. L. S. Lilich and O. E. Fresnikova. *Uchenye Zapiski, Leningrad. Gosudarst. Univ. im. A. A. Zhdanova* No. 163, *Ser. Khim. Nauk* No. 12, 3–14(1953); cf. *C.A.* 48, 6253e.—The reaction between ICl, IBr, I_2, and Br_2, and dioxane or MeOH was studied in soln. of CCl_4. Stability consts. were detd. spectrophotometrically for the intermol. compds. that were formed. The stability of these compds. is explained in terms of the ability of the mol. to accept electrons from the electron donor. The value of the dipole moments of the alc. and dioxane has no significant effect on the stability of the compd.

J. Rovtar Leach

LILICH, L.S.

Eighth Mendeleev lecture. Vest.Len.un. 9 no.8:193-194 Ag '54. (MLRA 8:7)
(Periodic law)

LIKICH, L. S.

USSR/Chemistry - Analysis

Card 1/1 Pub. 151 - 15/36

Authors : Ioffe, B. V., and Likich, L. S.

Title : Investigation of the tetranitromethane-benzene system by means of various physico-chemical analysis methods

Periodical : Zhur. ob. khim. 24/1, 81-88, Jan 1954

Abstract : The application of thermal and viscosimetric physico-chemical analysis methods, for the study of chemical reactions in the tetranitromethane - benzene system, is debated. The results, obtained by means of spectrophotometric and refractometric physico-chemical analysis methods, are tabulated. The main factor determining the form of isothermal curves obtained during the investigation of tetranitromethane - benzene systems is elucidated. Seventeen references: 11-USSR; 5-USA and 1-German (1910-1953). Tables; graphs.

Institution: State University, Chemical Institute, Leningrad

Submitted : August 27, 1953

Lilich, L. S.

The question of the nature of solutions. L. S. Lilich. *Vestnik Leningrad. Univ.* 10 [illegible]
No. 3, [illegible]. [illegible] [illegible]

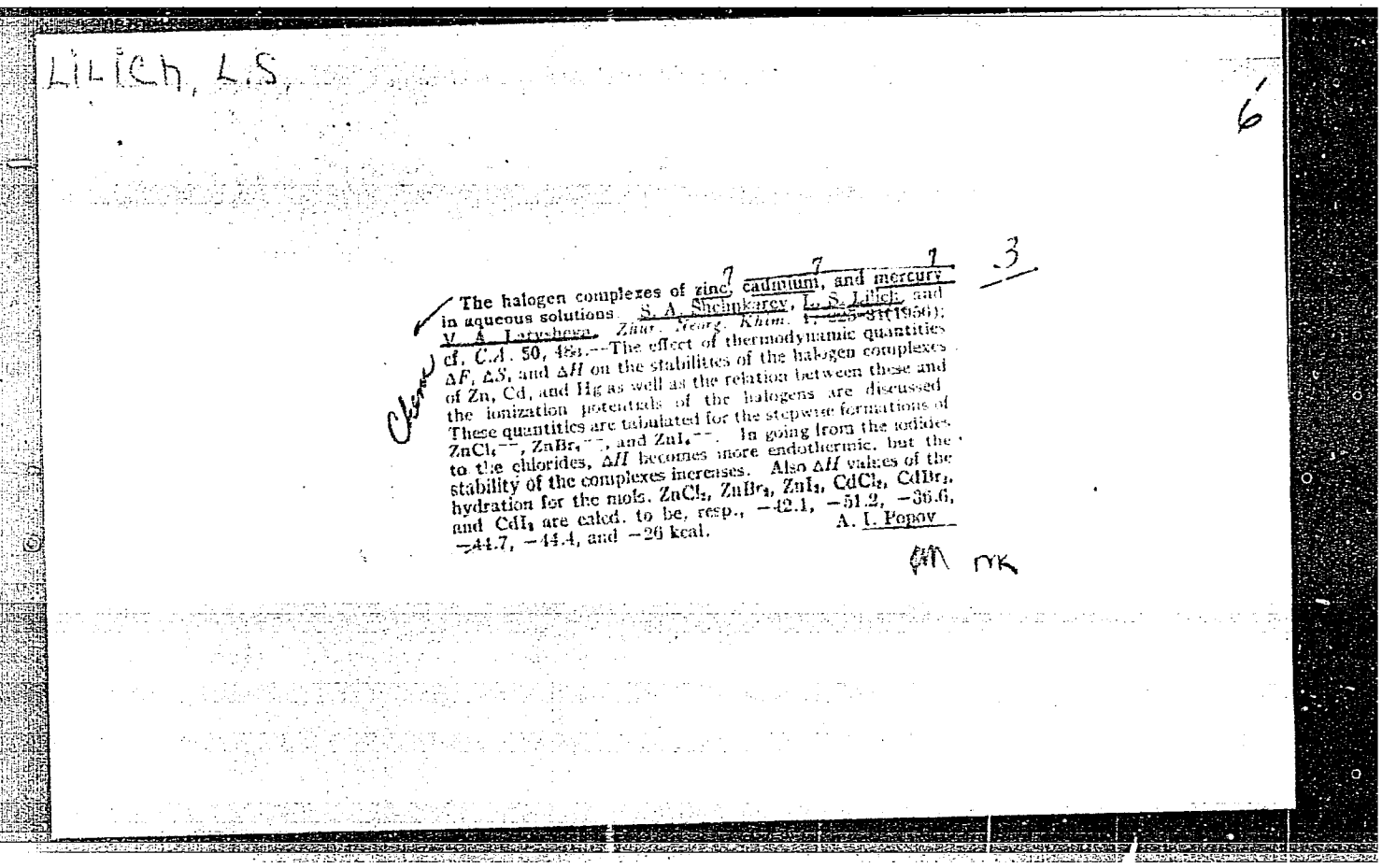
LILICH, L.S.

Scientific meeting of the physical sciences section. Vest.Len. un. 10 no.8:163-166 Ag '55. (MLRA 9:1)
(Solution (Chemistry))

LILICH, L. S.

CHV The effect of the concentration of acids on the heat effect of their reaction with the hydrates of zinc and barium oxide. S. A. Shchukarev, L. S. Lilich, and V. A. Talyshева. (Leningrad State Univ.) *Zhur. Obshchei Khim.* 25, 1444-8 (1955); cf. *C.A.* 48, 8019c.—The heat effect of the reaction of HCl, in large excess, with $Ba(OH)_2$ was independent of the acid concn. The heat effect for the reaction of $Zn(OH)_2$ with the following acids was studied: HCl, HBr, HI, and $HClO_4$. The acid concn. in these cases had a significant effect. For HCl, HBr, and HI the curve of enthalpy *vs.* concn. passed through a min. For $HClO_4$, an increase in concn. produced a progressive decrease in the enthalpy. The heats of hydration of Ba^{++} and Zn^{++} were calcd. to be 313 and 499 kcal., resp. J. Rovtar Leach

(2)



Lilich, L.S.

6

3

The halogen complexes of zinc, cadmium, and mercury in aqueous solutions. S. A. Shchukarev, L. S. Lilich, and V. A. Larysheva. *Zhur. Neorg. Khim.* 1, 225–31(1956); cf. *C.A.* 50, 461.—The effect of thermodynamic quantities ΔF, ΔS, and ΔH on the stabilities of the halogen complexes of Zn, Cd, and Hg as well as the relation between these and the ionization potentials of the halogens are discussed. These quantities are tabulated for the stepwise formations of $ZnCl_4^{--}$, $ZnBr_4^{--}$, and ZnI_4^{--}. In going from the iodides to the chlorides, ΔH becomes more endothermic, but the stability of the complexes increases. Also ΔH values of the hydration for the mols. $ZnCl_2$, $ZnBr_2$, ZnI_2, $CdCl_2$, $CdBr_2$, and CdI_2 are calcd. to be, resp., −42.1, −51.2, −36.6, −44.7, −44.4, and −26 kcal.

A. I. Popov

Lilich L.S

USSR/Thermodynamics - Thermochemistry. Equilibria. B-8
Physical-Chemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18472

Author : L.S. Lilich, V.I. Timofeyev.
Inst : Leningrad University.
Title : Steam Pressure in Ternary Solutions. $MeCl_2$ - HCl - H_2O.

Orig Pub : Vestn. Leningr. un-ta, 1956, No 10, 68-74

Abstract : The steam pressure in systems $ZnCl_2$ - HCl - H_2O (I) and $CuCl_2$ - Cl - H_2O (II) at 25° was measured by the gas current method. The interpretation of the experimental data is done basing on the examination of changes of phases effects of the components according to isoterms - isobars of water (see RZhKhim, 1955, 39726). Judging by the shape of isoterms - isobars, the authors conclude that the processes of component interaction in the system I are of a different character from that in the system II.

Card 1/1 - 162 -

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 381

systems $ZnCl_2$ - HCl - H_2O and $CuCl_2$ - HCl - H_2O, which have been studied earlier (part 1, RZhKhim, 1957, 18472). The authors think that an insignificantly expressed complex formation takes place between the chlorine and calcium ions contrarily to a considerable complex formation of chlorine ions with those of zinc and copper.

Card 2/2

LILICH, L.S.

USSR/Physical Chemistry - Solutions. Theory of Acids and Bases, B-11

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61141

Author: I. Lilich, L. S., Mogilev, M. Ye.; II. Lilich, L. S., Varshavskiy, Yu. S.

Institution: None

Title: On Hydrolysis of Salts. I. Perchlorates of the Elements of Group II of the Periodic System; II. Halides of Zinc, Cadmium and Mercury

Original Periodical: Zh. obshch. khimii, 1956, 26, No 2, 312-322

Abstract: I. Determined were the pH of solutions of perchlorates of Be, Mg, Ca, Sr, Ba, Zn, Cd and Hg in the concentration interval from 0 to [redacted]. The acidity of the solutions in all instances increases with increasing concentration. pH of equimolal solutions of the perchlorate of investigated cathions changes symbatically with the ionization potential I, and for pH as well as there is observed the phenomenon of secondary periodicity; which indicates that

Card 1/2

Lilich, L.S.

The solubility of the perchlorates of the Group II elements. L. S. Lilich and B. F. Dzhurinskii (Leningrad State Univ.). *Zhur. Obshchei Khim.* 26, 1548-53(1956).—The soly. of the perchlorates of Mg, Sr, Ca, Zn, Cd, and Hg in H_2O was detd. for the temp. range 0–50°. A linear relation was found between temp. and soly. and between the $\log M/M$ (M is the molar quantity) and $1/T$. From the slopes of the latter curves, the partial molar enthalpies and entropies for the phase transitions were calcd. J. R. Leach

LILICH, L.S.; TIMOFEYEV, V.I.

Vapor pressure in ternary systems HCl - H_2O. The system $BaCl_2$ - HCl - H_2O [with summary in English]. Vest. LGU 12 no.22:127-130 '57. (MIRA 11:2)

(Barium chloride) (Hydrochloric acid) (Vapor pressure)

LILICH, L. S.

AUTHORS: Lilich, L. S., and Timofeyev, V. I. 54-b-15/20

TITLE: The Vapour Pressure in Ternary Systems: $MeCl_2$-HCl + H_2O. System: $BaCl_2$-HCl-H_2O (Davleniye para v troynykh sistemakh $MeCl_2$-HCl+H_2O. Sistema $BaCl_2$-HCl-H_2O).

PERIODICAL: Vestnik Leningradskogo Universiteta Seriya Fiziki i Khimii, 1957, Vol. 22, Nr 4, pp. 127-130 (USSR).

ABSTRACT: The measurements of the vapour pressure of the above cited system has been carried out at various temperatures. At the whole concentration interval and at all recorded temperatures no HCl has been traced in the gas phase. The activity of the water does practically not depend on the temperature. This shows, that the enthalpy of the evaporation of water from solutions is equal to the enthalpy of the evaporation of pure water. The reason for this lies probably in the low concentration of the $BaCl_2$ and of the HCl.
There are 5 figures, 2 tables, and 12 references, 5 of which are Slavic.

SUBMITTED: May 25, 1957.

AVAILABLE: Library of Congress.

Card 1/1

Lilich, L. S.

Thermodynamic characteristics of the formation of halide complexes of cadmium in aqueous solutions. S. A. Shchukarev, L. S. Lilich, and V. A. Latysheva. *Uchenye Zapiski Leningrad. Gosudarst. Univ. im. A. A. Zhdanova* No. 211, *Ser. Khim. Nauk* No. 15, 17-25(1957).--The dependence of the variations of the oxidation-reduction potential of the system Cd (Hg)/Cd^{++} on the concn. of Cl^-, Br^-, and I^- at 25, 35, and 45° is given. The values of $\Delta F°$, ΔH, ΔS, and standard molar entropy at 25° and ionic strength μ = 4.5 are the following: (species, $\Delta F°$ cal./g. ion, ΔH cal./g. ion, ΔS cal./g. ion degree, $S°$ cal./g. ion degree, resp.) $CdCl^+$, −1800, 0, 0.1, 4.8; $CdCl_2$, −1230, −300, 3.1, 20.9; $CdCl_3^-$, 120, 2500, 9.2, 43.3; $CdCl_4^{--}$, 620, 2900, 7.7, 64.2; $CdBr^+$, −2300, 2300, 16.4, 20.2; $CdBr_2$, −1000, −4300, −11.1, 27.1; $CdBr_3^-$, −1100, 2000, 10.4, 53.0. $CdBr_4^{--}$, −700, 2600, 11.1, 88.3; CdI^+, −2700, —, —, 21.5; CdI_2, −1100, —, —, 50.7; CdI_3^-, −3000, —, —, 86.8; and CdI_4^{--}, −2000, —, —, 120.0. The stability consts; are also detd. A. Libacky

4E3d

4E4f

SOV/54-58-3-12/19

AUTHORS: Shchukarev, S. A., Lilich, L. S., Timofeyev, V. I.

TITLE: The Entropy of the Solution of Some Salts (Entropiya rastvoreniya nekotorykh soley)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1958, Nr 3, pp 105-111 (USSR)

ABSTRACT: The method chosen in the present paper has already been applied in the case of the mixture of two liquids (Refs 4-6). The new feature is its application to the solution of a solid in a liquid solvent. The authors expressed the thermodynamical functions as solution functions (n) and not as functions of the molar fraction. This made possible a better approximation to the ideal state in aqueous salt solutions. The solution entropy was computed for a number of salts (mainly for the halogens of the elements of the I. and II. group of the periodic system) and for a certain range of concentrations. The computed data are given in figures 1 and 2 and in tables 1 and 2. The absolute entropies of some solutions were computed as well (Table 3). From the curves conclusions concerning the thermodynamics of the

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solution and to a certain degree also of the solution itself can be deduced. According to the relative position of the three basic thermodynamical functions at least 3 cases are strikingly evident: a) ΔZ and ΔH are in the exothermic and ΔS in the endothermic range; b) ΔZ is in the exothermic, ΔH and ΔS are in the endothermic range; c) ΔZ, ΔS, and ΔH are all exothermic. It turned out that in some cases the enthalpy - the interaction between the solvent and the substance to be dissolved - plays a considerable role. In other cases the increase in entropy of the solvent and of the dissolved substance during their interaction is decisive. Finally cases exist in which both factors act in one and the same direction. The suggested computation method classifies the solutions according to Mendeleyev's conceptions concerning solutions as belonging into one line with common chemical compounds. There are 7 figures, 2 tables, and 7 references, 4 of which are Soviet.

SUBMITTED: January 9, 1958

SOV/54-58-3-18/19

AUTHORS: Shchukarev, S. A., Lilich, L. S., Timofeyev, V. I.

TITLE: Modification of the Isobaric Potential During the Solution of Some Halides in Water (Izmeneniye izobarnogo potentsiala pri rastvorenii nekotorykh galogenidov v vode)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1958, Nr 3, pp 149-155 (USSR)

ABSTRACT: In the present paper the authors computed the change of the isobaric Gibbs potential ΔZ of a number of substances when they are mixed with water. The computed quantities are of practical importance as they characterize the real and practically important formation processes of solutions and their components. In the computation of the change of ΔZ the equation $\Delta Z = \Delta \mu_1 + n \Delta \mu_2$ was used as starting point. $\Delta \mu_1$ denotes the change of the chemical potential of the dissolved substance at the transition from the pure salt or the saturated solution to the solution of the respective concentration; n denotes the number of moles of the solvent per 1 mol of the dissolved substance; $\Delta \mu_2$ denotes the change

Card 1/2

Modification of the Isobaric Potential During the Solution of Some Halides in Water

of the chemical potential of the solvent during the transition from the pure solvent to the solution in question. The change of ΔZ (at $T = 25^{\circ}$) during the formation of some salt solutions (halides of the elements of the I. and II. group of the periodic system) in the initial state - salt plus water - was computed. (Tables 1, 2). The integral quantities determined are represented as solution functions of the solutions n . A contrast between the functions $\Delta Z = f(n)$ permits to draw conclusions on their resemblance in form and the difference in their relative position. The latter depends on the chemical individuality of the interacting systems. Some advantages of the employed reading scale as compared to the usual scale for electrolytic solutions are shown. There are 2 figures, 1 table, and 12 references, 7 of which are Soviet.

SUBMITTED: January 9, 1958

Card 2/2

SHCHUKAREV, S.A.; JILICH, L.S.; TIMOFEYEV, V.I.

Changes in the isobaric potential during the dissolving of some halides in water [with summary in English]. Vest. LGU 13 no.16: 149-155 '58. (MIRA 11:11)
(Halides) (Solution (Chemistry))

Lilich, L.S.

24(8) PHASE I BOOK EXPLOITATION SOV/2809

Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk

Termodinamika i stroyeniye rastvorov; trudy soveshchaniya... (Thermodynamics and Structure of Solutions; Transactions of the Conference Held January 27-30, 1958) Moscow, Izd-vo AN SSSR, 1959. 295 p. 3,000 copies printed.

Ed.: M. I. Shakhparonov, Doctor of Chemical Sciences; Ed. of Publishing House: M. G. Yegorov; Tech. Ed.: T. V. Polyakova.

PURPOSE: This book is intended for physicists, chemists, and chemical engineers.

COVERAGE: This collection of papers was originally presented at the Conference on Thermodynamics and Structure of Solutions sponsored by the Section of Chemical Sciences of the Academy of Sciences, USSR, and the Department of Chemistry of Moscow State University, and held in Moscow on January 27-30, 1958. Officers of the conference are listed in the Foreword. A list of other reports also read at the conference, but not included in this book, are given. Among the problems treated in this work are: electrolytic solutions, ultrasonic measurement, dielectric and thermodynamic properties of various mixtures, spectroscopic analysis, etc. References accompany individual articles.

Card [illegible]

5(2,4) SOV/54-59-2-9/24

AUTHORS: Shchukarev, S. A., Lilich, L. S., Latysheva, V. A., Chuburkova, I. I.

TITLE: On the Heats of Reaction of CdO and $Cd(OH)_2$ With Hydrogen Halides and Perchloric Acids (O teplotakh vzaimodeystviya CdO i $Cd(OH)_2$ s galogenovodorodnymi i khlornoy kislotami)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 66-71 (USSR)

ABSTRACT: From the measurements of the heats of reaction of metal oxides and their hydrates, information is obtained on the state of the ions in solutions. The method of this investigation consists in determining the heat effects of individual processes in the reaction of metal hydroxides and oxides with the acids. (Destruction of the oxide lattice, dissociation of the acid, formation of H_2O molecules from the H^+ and OH^- ions, and formation of complexes between the ions of the metal, of the water and the anions of the acids.) As in the investigations of the present paper only one metal was used, the difference in the heat effects lies only in the complex formation and is dependent on

Card 1/4

On the Heats of Reaction of CdO and $Cd(OH)_2$ With Hydrogen Halides and Perchloric Acids

the various acids used. The perchloric acid which shows no tendency to form a complex was assumed as a zero solvent. The Cd-hydroxides and oxides were synthesized in a crystalline form, and checked for purity by means of X-rays and chemically. The measurements of the heats of reaction of the mentioned crystals with the solvents HCl, HBr, HJ, and $HClO_4$ were carried out at 25° with various concentrations of the latter. The results are compiled in a table and represented in a figure. The values of J. Thomsen (Ref 5) are also indicated for comparison. The table and the figure show that at low concentrations of HCl and HBr the reaction proceeds endothermically, at an increase in concentration, however, it becomes exothermal. The minimum shifts from HCl to HBr to lower concentrations. In case of HJ, there is nearly no minimum at all. The $HClO_4$ solution produces a straight line which becomes thermically more and more negative with an increase in concentration. There is a good agreement of the values obtained for the two former solutions with the values of Thomsen, but a

noticeable deviation in case of HJ. Thomsen used solutions in the stoichiometric ratio G^- : Cd^{++}, whereas in this paper this ratio was varied between 20 and 400 with an excess in G^- (G^- = halogen ion). The values obtained were also compared with values of other authors who determined the formation heats by other methods (Refs 9-15). As in previous papers (Ref 2), the hydration heat of Cd^{++} was computed by the formula: $h_{Cd^{++}} = -\Delta H + U_o - 2h_{OH^-} + 2H$. In this formula, ΔH = heat effect of the reaction: $Cd(OH)_2 + HClO_4$, U_o = lattice energy of the hydroxide, h_{OH^-} = hydration heats of the OH^--ions, H = heat effect of the formation of H_2O from the hydrated ions. The value 437.5 kcal/g-ion is obtained. This value is in good agreement with the values known from publications. Yatsimirskiy (Ref 18): $h_{Cd^{++}}$ = 436 kcal/mol, and Mishchenko and Podgornaya (Ref 20): 445 kcal/mol. There are 1 figure, 1 table, and 20 references, 8 of which are Soviet.

On the Heats of Reaction of CdO and $Cd(OH)_2$ With Hydrogen Halides and Perchloric Acids SOV/54-59-2-9/24

SUBMITTED: January 18, 1958

Card 4/4

5(4) SOV/54-59-2-14/24

AUTHORS: Lilich, L. S., Shapkina, Yu. S.

TITLE: Vapor Pressure Over the Systems: $MeCl_2$-HCl-H_2O. The Systems: $MgCl_2$-HCl-H_2O; $SrCl_2$-HCl-H_2O; $HgCl_2$-HCl-H_2O (Davleniye para nad sistemami: $MeCl_2$-HCl-H_2O. Sistemy: $MgCl_2$-HCl-H_2O; $SrCl_2$-HCl-H_2O; $HgCl_2$-HCl-H_2O)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 93-99 (USSR)

ABSTRACT: As an extension to the investigations of ternary systems of the type mentioned in the title, the change of the chemical potential of the volatile components over these systems (the change of this potential is in connection with the periodical law) was systematically investigated. In this paper, the systems containing bivalent cations of the metals of the 2nd group of the periodic system were considered. The elements Mg, Sr, and Hg were chosen (other elements of this group had already been investigated in previous papers, Refs 1,2,3) because Mg is typical for this group, Sr belongs to the prin-

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Vapor Pressure Over the Systems: $MeCl_2$-HCl-H_2O. The Systems: $MgCl_2$-HCl-H_2O; $SrCl_2$-HCl-H_2O; $HgCl_2$-HCl-H_2O

cipal subgroup, and Hg to the secondary subgroup. The working method, the computation methods and the measuring accuracy are the same as in the mentioned papers. In the analysis, Mg^{++} was determined by trilon "B" with the indicator "eriochrome black" (Ref 4), Sr^{++} by precipitation from alcoholic solutions with sulphuric acid, and Hg^{++} by indirect filtration by means of NH_4CNS (Ref 6), and the oxygen was determined potentiometrically. The partial pressures of the volatile components (H_2O and HCl) over the solution at 25° were determined for the investigations indicated. The total results of the investigations are represented in tables 1-3 and in figures 1-8. The representation of the isothermals/isobars for a number of pressures shows: The isothermals/isobars of the systems $MgCl_2$-HCl-H_2O and $SrCl_2$-HCl-H_2O are completely straight, whereas the isothermals/isobars of the system $HgCl_2$-HCl-H_2O differ from those of the other two systems in shape and position. On the basis

Vapor Pressure Over the Systems: $MeCl_2$-HCl-H_2O. The Systems: $MgCl_2$-HCl-H_2O; $SrCl_2$-HCl-H_2O; $HgCl_2$-HCl-H_2O

of the available experimental material, and of materials from previous papers (Refs 1-3), it could be ascertained that there are two types of isothermals/isobars: one type is characteristic of systems in which there are no complex-forming ions, the other one of systems with a marked complex formation. In systems containing no complex-forming ions, the vapor pressure of the water over the ternary system is determined by the properties of two two-component systems which are formed in them (e.g. for the three-component system $MgHCl_2$-HCl-H_2O, the two two-component systems HCl-H_2O and $MgCl_2$-H_2O). This fact is characteristic of the elements of the principal subgroup of the periodic system. It had already been ascertained by several authors (Zdanovskiy, Ref 7, and L. Ezrokhi, Ref 8). The complex-forming ions, present in the solution, show a tendency of forming complexes with the Cl-ions, and thus they weaken the hydrate envelope around the metal ion; they have a "salting" effect on HCl and a "desalting" effect on water. The inverse circumstances apply to the ions which do not form

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Vapor Pressure Over the Systems: $MeCl_2$-HCl-H_2O. The Systems: $MgCl_2$-HCl-H_2O; $SrCl_2$-HCl-H_2O; $HgCl_2$-HCl-H_2O

complexes. There are 8 figures, 3 tables, and 9 references, 8 of which are Soviet.

SUBMITTED: June 29, 1958

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5(4)
AUTHOR: Lilich, L. S.

SOV/78-4-1-31/48

TITLE: On the Question of the Interaction of Ions in Aqueous Solutions (K voprosu o vzaimovliyanii [illegible] vodnykh rastvorakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 163-168 (USSR)

ABSTRACT: By examining the solubility of salts in composite solvents the reciprocal influence of ions in the solution was investigated. Solubility was examined in the following four systems: $HgCl_2$ - $Hg(ClO_4)_2$ - H_2O, $HgCl_2$ - HCl - H_2O, $BaCl_2$ - HCl - H_2O, $BaCl_2$ - $Ba(ClO_4)_2$ - H_2O. These systems have the same ionic charges but different chemical properties. Solubility was investigated at 25, 35, and 45°C. According to the results obtained the solubility of $BaCl_2$ in solutions of HCl and $Ba(ClO_4)_2$ decreases with an increase of the concentration of the latter. The solubility of $HgCl_2$ increases with an increase of the concentration of the anhydrous component of the solvent. In order to explain this increase in solubility it would be

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necessary to carry out thermodynamic investigations of the polynuclear complexes. A comparison of the solubility of $BaCl_2$ and $HgCl_2$ in the respective solvents shows the influence of chemical factors upon the activity of the ions in the solutions. There are 4 figures, 1 table, and 21 references, 8 of which are Soviet.

SUBMITTED: October 2, 1957

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SOV/78-4-10-5/40

5(2)

AUTHORS: Shchukarev, S.A., Lilich, L. S., Latysheva, V. A., Andreyeva, D. K.

TITLE: On the Heats of Interaction of HgO With Aqueous Solutions of HCl, HBr, HJ, and $HClO_4$

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 10, pp 2198-2203 (USSR)

ABSTRACT: This paper is a continuation of the papers of references 1-3 on the heats of interaction of oxides and hydroxides of the metals of the 2nd group of the periodic system with halogen hydracids and chloric acid. The authors try to evaluate the total variation (ΔH) of enthalpy on formation of halogen complexes by comparison of the heat of interaction of the metal oxide with complex-forming acids (HCl, HBr, HJ) and with $HClO_4$ which is not complex-forming. So far Ba, Cu^{II}, Zn and Cd have been investigated. The investigation of the interaction of HgO now presented permits a comprehensive survey regarding the behavior of the zinc-subgroup. The dependence of ΔH_{298} on the acid concentration (1-4 mole/l) is presented in table 1 and

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On the Heats of Interaction of HgO With Aqueous Solutions of HCl, HBr, HJ, and $HClO_4$

figure 1. The dependence on kind and concentration of the anions is determined by complex formation. The formation of mercury-halogen complexes is exothermic in the concentration range investigated. The heat of hydration of the Hg^{2+}-ion calculated to be 441 kcal/mole is in good agreement with the data in publications (Table 2). With increasing atomic number of the cation of the zinc-subgroup and of the anion of the chlorine-subgroup the endothermic nature of the complex formation decreases and the exothermic nature increases (Table 3). With increasing atomic number of the cation also the difference between the formation enthalpies of the Cl-, Br-, and J-complexes increases (Fig 2). A secondary periodic dependence between the atomic numbers of the metal and the influence of the acidity upon the enthalpy of the interaction between the oxides (hydroxides) of Zn, Cd, Hg and chloric acid was found to exist (Fig 3). This dependence is explained by a different weakening of the interaction of the cations with the water, similar to that observed by O. Ya. Samoylov (Ref 16) in the system alkaline earth chloride - hydrochloric acid. The concentration of the hydracids affects the nature of the dependence of the enthalpy of the complex compounds on the atomic number of the

On the Heats of Interaction of HgO With Aqueous Solutions of HCl, HBr, HJ, and $HClO_4$

cation. There are 3 figures, 3 tables, and 18 references, 12 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova Kafedra neorganicheskoy khimii (Leningrad State University imeni A. A. Zhdanov, Chair of Inorganic Chemistry)

SUBMITTED: July 20, 1958

05888

5(2) SOV/78-4-11-41/50

AUTHORS: Lilich, L. S., Anikiyeva, M. D.

TITLE: The Vapor Pressure in the Systems CaX_2 - HX - H_2O

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 11, pp 2630-2634 (USSR)

ABSTRACT: The investigation was carried out from the point of view that the vapor pressure of the volatile component over a solution characterizes the chemical potential of this component in the solution. The system mentioned in the title was investigated with X = halogen ion. The hydriodic acid was prepared according to Yu. V. Karyakin (Ref 6). The measurement results are shown in tables 1-5 and figures 1-4. The isothermal-isobaric lines of water in the coordinate system HX - CaH_2 (X = Cl, Br, I) are parallel straight lines in all three systems investigated. Like in the corresponding binary systems, the vapor pressure increases also here in the sequence iodides - bromides - chlorides. This is in contradiction to the increase in hydration heat from Cl to I of the ions Cl^-, Br^-, I^-, but is explained by the hydration enthalpy of the halides (Ref 12). The linear course of the isothermal-isobars

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in the tertiary systems agrees with the rules by A. B. Zdanovskiy (Ref 13) and L. Ezrokhi et al (Ref 14). If the vapor pressure of the solvent common to two binary systems is known, the vapor pressure for the ternary system can be determined. There are 4 figures, 5 tables, and 14 references, 12 of which are Soviet.

SUBMITTED: July 22, 1958

SHCHUKAREV, S.A.; LILICH, L.S.; LATYSHEVA, V.A.; CHUBURKOVA, I.I.

Heat of reaction of CdO and $Cd(OH)_2$ with hydrogen halides and perchloric acid. Vest.LGU 14 no.10:66-71 '59.
(MIRA 12:6)

(Cadmium oxide) (Cadmium hydroxide) (Heat of reaction)

LILICH, L.S.; SHAPKINA, Yu.S.

Vapor pressures over the $MeCl_2$ - HCl - H_2O systems. Systems: Systems: $MgCl_2$ - HCl - H_2O; $SrCl_2$ - HCl - H_2O; $HgCl_2$ - HCl - H_2O. (MIRA 12:6)

Vest.LGU 14 no.10:93-99 '59.
(Systems (Chemistry) (Vapor pressure)

LATYSHEVA, V.A.; LILICH, L.S.; SIRENKO, A.S.

Effect of certain salts and acids on the rate of oxidation of I^- ions by Fe^{3+} ions. Vest.LGU 15 no.10:121-130 '60. (MIRA 13:5)

(Iodides) (Iron)

LILICH, L.S.; SMIRNOVA, R.S.; OKATOVA, A.I.

Water vapor pressure in the system $Me(ClO_4)_2 - HClO_4 - H_2O$. Zhur. neorg.khim. 7 no.2:377-378 F '62. (MIRA 15:3)
(Perchlorates) (Systems (Chemistry)) (Vapor pressure)

LILICH, L.S.; POPKOV, O.S.

Chemical potentials in MeX_2 - HX - H_2O systems. Part 1: Chemical potentials of hydrochloric acid in $MeCl_2$ - HCl - H_2O systems. Vest.LGU 17 no.10:140-143 '62. (MIRA 15:5)
(Hydrochloric acid--Electric properties) (Systems (Chemistry))

LILICH, L.S.; ANDREYEVA, D.K.; LOGINOV, A.A.

The water vapor pressure in the systems: MeX_2 - HX - H_2O. The systems: $CdBr_2$ - HBr - H_2O: CdI_2 - HI - H_2O; $HgBr_2$ - HBr - H_2O; HgI_2 - HI - H_2O. Vest. LGU 17 no.16:101-107 '62. (MIRA 15:9)

(Vapor pressure) (Systems (Chemistry))

LILICH, L.S.; SAPOZHNIKOV, O.V.

Vapor pressures in the systems $CuCl_2$ - HCL - H_2O and $Cu(ClO_4)_2$ - $HClO_4$ - H_2O. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.4:572-577 '63. (MIRA 17:2)

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LILICH, L.S.; SAPOZHNIKOVA, O.V.

System $CuCl_2$ - HCl - H_2O at 25°. Zhur. neorg. khim. 9 no.9: 2219-2221 S '64. (MIRA 17:11)

STORONKIN, A.V., doktor khim. nauk, otv. red.; LILICH, L.S., kand. khim. nauk, otv. red.; POZDYSHEVA, V.A., red.

[Chemistry and the thermodynamics of solutions] Khimiia i termodinamika rastvorov. Leningrad, 1964. 261 p. (MIRA 18:1)

1. Leningrad. Universitet.

LILICH, L.S.; CHERNYKH, L.V.; SHALYGIN, V.M.

Solubility in the systems $Ca(ClO_4)_2$ - $HClO_4$ - H_2O and $Cd(ClO_4)_2$ - $HClO_4$ - H_2O. Zhur. neorg. khim. 8 no.12:2773-2777 D '63. (MIRA 17:9)

BURKOV, K.A.; LILICH, L.S.

Hydrolysis of the nickel ion in a 3M (Na)Cl medium. Vest. LGU 20 no.10:103-115 '65. (MIRA 18:7)

LILICH, L.S.; OVTRAKHT, N.V.

Solubility in the systems $Ca(ClO_4)_2$ - $NaClO_4$ - H_2O and $Cd(ClO_4)_2$ - $NaClO_4$ - H_2O at 25°C. Vest. LGU 20 no.10:116-119 '65. (MIRA 18:7)

LILIS, M. Dr.

TEODORESCU, P. Prof.; BERCEANU, St., Dr.; LILIS, M. Dr.; SIRBULESCU, R. Dr.

Endomyocardofibrosis; clinical and morphopathological aspects. Med. int., Bucur. 9 no.5:745-751 May 57.

1. Lucrare efectuata in Clinica a VI-a medicala I.M.F. a Spitalului Dr. I. Cantacuzino.

(HEART DISEASES
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TEODORESCU, P.; STEFAN, I.; LILIS, M.; SIRBULESCU, R.; CONSTANTINESCU, P.; TINCU, S.

The adrenal glands & cardiac failure: functional tests & therapeutic attempts. Rumanian M. Rev. 3 no.1:15-21 Jan-Mar 59.

(CONGESTIVE HEART FAILURE
adrenal cortex funct. & prednisone ther.)
(ADRENAL CORTEX, physiol.
in congestive heart failure, application to prednisone ther.)
(PREDNISONE, ther. use
congestive heart failure, indic. by adrenal cortex funct.)

TEODORESCU,P.,Prof.; LILIS,M.,dr.; MARES,A.,dr.; CONSTANTINESCU,D.,dr.

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TEODORESCU, P., prof.; LILIS, M., dr.; STEFAN, I., dr.; TINCU, Silvia, chemist; SIRBULESCU, R., dr.; POMPILIAN, P., dr.; CUCU, N., dr.; STERIAN, Iolanda

Treatment with sulfonamide diuretics in refractory cardiac insufficiency. Med. intern., Bucur 13 no.1:121-135 Ja '61.

(HEART FAILURE, CONGESTIVE therapy)
(CHLOROTHIAZIDE related cpds)

TEODORESCU, P., prof.; STEFAN, I.; LILIS, M.; SIRBULESCU, R.; TINCU, S.; POMPILIAN, P.

Contributions to the functional characterization of the adrenal cortex in heart failure. Rumanian M Rev. no.1:272 Ja-Mr '61.

1. Medical Clinic, Cataruzino Hospital, Medicopharmaceutical Institute, Bucharest. Head of the Clinic: Prof. P. Teodorescu.
(ADRENAL CORTEX physiology) (HEART FAILURE, CONGESTIVE physiology)